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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,146	07/24/2003	Rachel E. Learned	D4605-US	9313
42716	7590	10/06/2006	EXAMINER	
MAINE & ASMUS P. O. BOX 3445 NASHUA, NH 03061			TSE, YOUNG TOI	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/626,146	LEARNED, RACHEL E.	
	Examiner	Art Unit	
	YOUNG T. TSE	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-21, 24 and 25 is/are rejected.
- 7) ☒ Claim(s) 1-5, 22-23 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20040218</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. Only part of the Non Patent Literature Documents mentioned in paragraphs [0024], [0025], [0037], [0062], and [0070] of the specification are provided in Form PTO-1449 filed on February 18, 2004.

Claim Objections

2. Claims 1-26 are objected to because of the following informalities:

In claim 1, line 3, "coupled to" should be "that obtains information on" since the term "said received signals" is not a physical element or device; lines 8-9, "said plurality of information streams" should be "said complexity multi-user detector"; line 12, "decoders, said plurality of refined information systems, and" should be "decoders and"; lines 15-16, "a bank of error correction decoders coupled to said plurality of improved information streams, wherein said error correction decoders output" should be "a bank of low complexity decoders coupled to said low complexity multi-use detector, wherein

said bank of low complexity decoders outputs"; and line 20, "output" should be "outputs".

In line 3, lines 1-2, "said error correction decoders are" should be "said bank of low complexity decoders is".

In claim 5, lines 1-2 and 4, "an interleaver" should be "a deinterleaver"; lines 3 and 6, "a deinterleaver" should be "an interleaver"; and lines 5-6 and 6-7, "error correction decoders" should be "low complexity decoders". See figure 2.

In claim 8, line 3, "the said" should be "said".

In claim 10, line 2, "said low complexity bank of decoders" should be "said bank of low complexity decoders".

In claim 11, line 3, "coupled to" should be "that obtains information on" and lines 22-23, "said bank of error correction decoders" should be "said bank of low complexity decoders".

In claim 13, lines 1-2, "said low complexity bank of decoders are " should be "said bank of low complexity decoders is".

In claim 21, line 2, "said low complexity bank of decoders" should be "said bank of low complexity decoders".

In claim 22, line 5, "the first iteration" should be "a first iteration"; line 11, "the symbol streams" should be "symbols streams"; line 12, "the low complexity MUD" should be "a bank of low complexity decoders"; and lines 14 and 15, both "the low complexity MUD" should be "the bank of low complexity decoders".

In claim 26, line 2, the word "of" should be deleted.

The dependent claims 2, 4, 6-7 and 9 are objected to because they are depended upon the independent claim1.

The dependent claims 12 and 14-20 are objected to because they are depended upon the independent claim11.

The dependent claims 23-25 are objected to because they are depended upon the independent claim 22.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The configuration of the interleavers and the deinterleavers recited in claim 15 does not correspond to the disclosure of figure 3 since claim 11 is directly related to the embodiment of figure 3 which claim 15 depends.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6-8, 10-21 and 23-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 6-7 (lines 1-2), claim 8 (lines 2-3), claim 10 (lines 2-3), claims 16-17 (line 1), claim 21 (lines 2-3), and claim 24 (line 3), the phrases "said final stopping point", "the said received signal", "said final data stream", and "said last iteration" all lack antecedent basis.

In claim 8, lines 2-3, the phrase "wherein said filter unit is coupled to the said received signal" is indefinite since the term "the said received signal" is not a physical element or device. Also see the phrases "a front end section coupled to said received signals and to said received signal information", "a high complexity multi-user detector coupled to said filtered received signals", "a bank of high complexity decoders coupled to said plurality of information streams", "a low complexity multi-user detector coupled to said plurality of refined information streams, and said received signal information", and "a bank of low complexity decoders coupled to said plurality of improved information streams" recited in claim 11.

The dependent claim 9 is rejected to because it is depended upon claim 8.

In claim 25, line 2, the "de-interleaving and interleaving" lack cooperation with any of the steps recited in claim 22 which claim 25 depends.

The dependent claims 12-15 and 18-20 are rejected to because they are depended upon the independent claim 11.

Allowable Subject Matter

7. Claims 1-5, 22-23 and 26 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.
8. Claims 6-14, 16-21 and 24-25 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

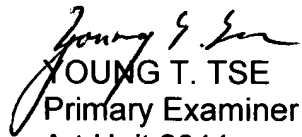
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. MacLeod et al., Yu et al., Mills et al., and Elgamal et al. are related to multi-users communication systems comprising multi-user detector and decoders for detecting and decoding multiple received signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


YOUNG T. TSE
Primary Examiner
Art Unit 2611